



(43) International Publication Date
29 September 2005 (29.09.2005)

PCT

(10) International Publication Number
WO 2005/091533 A1

REG.

(51) International Patent Classification⁷: **H04B 10/155**

(21) International Application Number:
PCT/EP2004/002450

(22) International Filing Date: 10 March 2004 (10.03.2004)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): **PIRELLI & C. S.p.A.** [IT/IT]; Via Gaetano Negri, 10, I-20123 Milano (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BOFFI, Pierpaolo** [IT/IT]; c/o Corecom, Via G. Colombo, 81, I-20123 Milano (IT). **MARAZZI, Lucia** [IT/IT]; c/o Corecom, Via G. Colombo, 81, I-20123 Milano (IT). **MARTINELLI, Mario** [IT/IT]; c/o Corecom, Via G. Colombo, 81, I-20123 Milano (IT). **PARADISO, Livio** [IT/IT]; c/o Corecom, Via G. Colombo, 81, I-20123 Milano (IT). **PAROLARI, Paola** [IT/IT]; c/o Corecom, Via G. Colombo, 81, I-20123 Milano (IT).

(74) Agents: **GIANNESI, Pier, Giovanni et al.**; Pirelli & C. S.p.A., Viale Sarca, 222, I-20126 Milano (IT).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

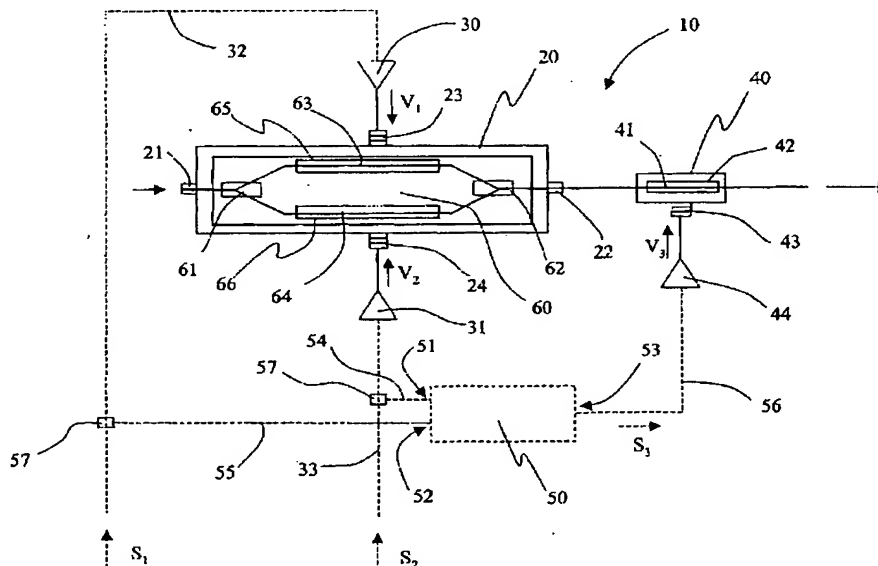
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR OPTICAL PHASE MODULATION



(57) Abstract: A method of phase modulating an optical radiation comprises the steps of phase modulating the optical radiation by using a modulator having an extinction ratio in order to provide a multilevel phase shift key signal, and applying to each optical pulse a phase-shift having an absolute value depending on the extinction ratio and a sign depending, for each of the optical pulses, on the respective optical phase value. An apparatus implementing the method is also disclosed.

WO 2005/091533 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.